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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/016,933

12/14/2001

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EXAMINER

MITCHELL, JASON D

ART UNIT

PAPER NUMBER

2124

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,933

Applicant(s)

MELGAR, DAVID O.

Examiner

Jason Mitchell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) none is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/14/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to an application filed on 12/14/2001.
2. Claims 1-27 are pending in this case.

Claim Objections

3. Claim 25 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim recites the limitation "the modifying step is performed programmatically". The parent claim (claim 23) recites "the step of programmatically generating migration logic further comprises ... modifying the template," indicating that the modifying step is performed programmatically causing a duplication of limitations.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The language of the claims is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. The word

'programmatically' in and of its self does not necessitate a technological embodiment. Further none of the related steps (i.e. parsing, identifying and creating') require the method to be technologically embodied.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1-2, 4-11, 16, 19, 20 and 26-27 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,199,195 B1 to Goodwin et al. (Goodwin).**

Regarding Claims 1 and 26-27: Goodwin discloses a method (col. 3, lines 3-4 'a method'), system (col. 5, lines 37-42 'a computer system') and program product (col. 5, lines 37-42 'systems software') for programmatically generating a class library (col. 3, lines 3-4 'for generating source code') to represent messages described in a structured language specification (col. 3, lines 10-12 'as a function of ... unified models'), comprising steps of parsing an input structured language specification (col. 13, lines 21-22 'reads the object elements from the schema server') encoded in a structured markup language (col. 11, lines 2-6 'The repository adaptor tool ... connects to commit a unified model for storage in the schema repository' and col. 11, lines 9-13 'examples of

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adaptors ... XMI ADAPTOR'); identifying selected aspects of the input structured language specification during the parsing step (col. 13, lines 21-22 'reads the object elements'); and creating output code for the identified selected aspects by applying previously-specified operations (col. 13, lines 23-26 'applies a set of known templates ... to produce a set of source code objects'), wherein the previously-specified operations create programming language statements in a target programming language (col. 13, lines 26-28 'The templates define what is the language of the code') such that the created output code comprises a class library in the target programming language (col. 14, lines 5-6 'produce a resultant code library').

Regarding Claim 2: The rejection of claim 1 is incorporated; further, Goodwin discloses the input structured language specification is a schema (col. 13, lines 21-22 'reads the object elements from the schema server').

Regarding Claim 4: The rejection of claim 1 is incorporated; further, Goodwin discloses that the structured markup language is Extensible Markup Language (lines 9-13 'examples of adaptors ... XMI ADAPTOR').

Regarding Claim 5: The rejection of claim 1 is incorporated; further, Goodwin discloses the selected aspects comprise presence of one or more of elements and attributes encoded in the structured markup language (col. 8, lines 6-9 'unified models are passed ... this can be either a class').

Regarding Claim 6: The rejection of claim 5 is incorporated; further, Goodwin discloses the selected aspects further comprise presence of child elements (col. 8, lines 6-9 'unified models are passed ... this can be ... subclass').

Regarding Claim 7: The rejection of claim 5 is incorporated; further, Goodwin discloses the selected aspects further comprise whether the attributes are required attributes (col. 9, lines 27-31 'Some object services require every object to implement or inherit some interfaces ... The code generator 330 supplies the source code objects required').

Regarding Claim 8: The rejection of claim 1 is incorporated; further, Goodwin discloses the selected aspects and the previously specified operations are specified in a template (col. 13, lines 63-65 'The templates ... are used to specify various services and operations to be supported').

Regarding Claim 9: The rejection of claim 8 is incorporated; further, Goodwin discloses the template is adapted to creating the output code in the target programming language (col. 13, lines 26-28 'The templates define what is the language of the code').

Regarding Claim 10: The rejection of claim 9 is incorporated; further, Goodwin discloses substituting a different template to create the output code for the input structured language specification in a different target programming language (col. 13, lines 55-58 'the template language parser is selected ... which may be a parser for virtually any computer language').

Regarding Claim 11: The rejection of claim 1 is incorporated; further, Goodwin discloses the target programming language is an object-oriented programming language, and wherein the previously-specified operations comprise creating output code for creating objects which represent elements of the input structured language specification (col. 8, lines 6-9 'class, package, subclass or any other ... object').

Regarding Claim 16: The rejection of claim 1 is incorporated; further, Goodwin discloses using rules to influence processing of the creating step (col. 39-44 'options for code to be generated are stored in a properties file').

Regarding Claim 19: The rejection of claim 16 is incorporated; further, Goodwin discloses one or more of the rules specifies special processing to override the creating step for particular ones of the aspects (col. 14, lines 26-30 'options 416, which are specifications of options to be used for particular templates').

Regarding Claim 20: The rejection of claim 1 is incorporated; further, Goodwin discloses the method is invoked during processing of a web service (col. 9, lines 17-20 'allows other servers to connect, ... and invokes code generation'), which is specified using a reference to the input structured language specification (col. 9, lines 17-20 'identify a model to be transformed into a server').

Claim Rejections - 35 USC § 103

7. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,199,195 B1 to Goodwin et al. (Goodwin).

Regarding Claim 3: The rejection of claim 1 is incorporated; further, Goodwin does not disclose the structured language specification is a Document Type Definition, but does disclose that the model used is described using XML (col. 11, lines 9-13 'examples of adaptors ... XMI ADAPTOR').

Applicant teaches that DTDs were "used for specifying the grammar for a particular structured document" (pg. 3, lines 4-7).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use DTDs, as taught by the applicant (pg. 3, lines 4-7), to describe the grammar of the 'models' stored in Goodwin's schema repository (col. 11, lines 2-6 'The repository adaptor tool ... connects to commit a unified model for storage in the schema repository') because one of ordinary skill in the art would have been motivated to provide a method to define the modules in a computer readable way (see Applicant's disclosure pg. 3, lines 4-7).

Regarding Claim 12: The rejection of claim 11 is incorporated; further, Goodwin does not disclose creating output code for setting value in and retrieving values from, the created objects. However, Goodwin does disclose the generation of objects (col. 8, lines 6-9 'class, package, subclass or any other ... object'), and by applicant's disclosure (pg. 4, lines 10-11) "each message attribute needs both a setter and a getter method".

Therefore it would have been obvious to a person of ordinary skill in the art at the time of the invention to include 'setter' and 'getter' methods in the generated objects, because by Applicants admission, 'setter' and 'getter' methods are common aspects of object oriented programming (pg. 4, lines 10-11).

Regarding Claim 13: The rejection of claim 11 is incorporated; further, Goodwin discloses creating output code for sending a message whose contents reflect one of the created objects (col. 9, lines 33-35 'The code generation will generate CORBA interfaces for each of the classes').

Regarding Claim 14: The rejection of claim 12 is incorporated; further, Goodwin discloses creating output code for sending a message whose contents reflect one of the

created objects (col. 9, lines 33-35 'The code generation will generate CORBA interfaces for each of the classes').

Regarding Claim 15: The rejection of claim 12 is incorporated; further, Goodwin discloses creating output code for receiving a message and using contents of the received message for setting the value in one of the created objects. (col. 9, lines 33-35 'The code generation will generate CORBA interfaces for each of the classes').

8. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,199,195 B1 to Goodwin et al. (Goodwin) in view of US 6,393,331 to Chetta et al. (Chetta).

Regarding Claim 17: The rejection of claim 16 is incorporated; further, Goodwin does not disclose one of the rules specifying where the created output code should be stored, but does disclose the code being stored in a directory (col.9, lines 52-53 'writes source code objects to a directory').

Chetta teaches a user specifying an output directory (col. 11, lines 51-54 'the user specifies the directory for the output files') in an analogous art for the purpose of determining where to write files (col. 11, lines 51-54 'for the output files that are created')

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the methods taught in Chetta (col. 11, lines 51-54) to determine which directory to write the source code objects to as disclosed in Goodwin (col.9, lines 52-53)

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because one of ordinary skill in the art would have been motivated to provide the user a choice in which directory to use (col. 11, lines 51-54 'the user specifies the directory').

Regarding Claim 18: The rejection of claim 16 is incorporated; further, Goodwin does not disclose one of the rules specifying a name for the class library. However, Goodwin does disclose 'user options for code to be generated' (col. 13, lines 42-44).

Chetta teaches 'class name' as an attribute of a class (col. 15, lines 3-4 "'className", which returns the class name') in an analogous art.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include the class name, taught in Chetta, as one of the options set by the user in Goodwin (col. 13, lines 42-44).

9. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,199,195 B1 to Goodwin et al. (Goodwin) in view of US 2003/0,126,136 A1 to Omoigui (Omoigui).

Regarding Claim 21: The rejection of claim 20 is incorporated; further, Goodwin does not disclose the reference is specified as a Uniform Resource Locator in a Web Services Definition Language document, but does disclose a client connecting to his invention and referencing a model for which to generate code (col. 9, lines 17-20 'allows other servers to connect, identify a model to be transformed').

Omoigui teaches a WSDL that uses an URL (par. [0592] "via a WSDL web service URL") in an analogous art for the purpose of referencing a data source (par. [0592] "Web Service reference").

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It would have been obvious to a person of ordinary skill in the art at the time of the invention to connect to Goodwin's invention (col. 9, lines 17-20) using the methods taught in Omoigui (par [0592]), because one of ordinary skill in the art would have been motivated to provide a widely accepted method to request services (col. 9, lines 20-23 'The objective ... is to support Next Generation Information Infrastructure (NGII) services').

10. Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,199,195 B1 to Goodwin et al. (Goodwin) in view of US 6,385,618 to Ng (Ng)

Regarding Claim 22: The rejection of claim 8 is incorporated; further, Goodwin does not disclose programmatically generating migration logic for the input structured language specification.

Ng teaches programmatically generating migration logic for a changed object model (col. 7, lines 56-58 'having isolated the changes ... generates new source code') in an analogous art for the purpose of simplifying the modification of an object-oriented program (col. 4, lines 53-54 'saving the programmer significant development time').

It would have been obvious to a person of ordinary skill in the art at the time of the invention to apply the techniques taught in Ng's invention (col. 7, lines 56-58) to generate updated source code (col. 3, lines 13-15 'generating source code objects') in Goodwin's invention when an update to one of the modules (col. 3, lines 20-21 'receiving the unified models') occurs because one of ordinary skill in the art would have

been motivated to save the developer time (col. 4, lines 53-54 'saving the programmer significant development time').

Regarding Claim 23: The rejection of claim 22 is incorporated; further Goodwin does not disclose programmatically generating migration logic for the input structured language specification.

Ng teaches parsing a newer version of an object module (col. 7, lines 33-34 'a database data structure is created'); comparing the old version of the module to the new version (col. 7, lines 39-41 'compares the two database data structures'); identifying, during the comparing step, elements and attributes which are present in the old version but which are not present in the newer version (col. 7, lines 45-46 'to identify the differences between the two data structures'); and creating new source code to account for the identified elements and attributes (col. 7, lines 47-49 'updates object model') in an analogous art for the purpose of simplifying the modification of an object oriented program (col. 4, lines 53-54 'saving the programmer significant development time'). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the parsing (col. 7, lines 33-34), comparing (col. 7, lines 39-41), and updating techniques (col. 7, lines 47-49) taught in Ng to update Goodwin's template (col. 3, lines 22-23 'a plurality of templates') when a module (col. 3, lines 20-21 'receiving the unified models') was updated because one of ordinary skill in the art would have been motivated to save the developer time (col. 4, lines 53-54 'saving the programmer significant development time').

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Regarding Claim 24: The rejection of claim 23 is incorporated; further, Neither Goodwin or Ng disclose the modifying step being performed by a human. However Ng teaches automatically modifying the code (col. 7, lines 56-58 'the mapping tool generates new source code') in an analogous art for the purpose of simplifying the modification of an object oriented program (col. 4, lines 53-54 'saving the programmer significant development time').

Omission of an element and its function is obvious if the function of the element is not desired (see *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965)). Regarding the current claim, It would have been obvious to a person of ordinary skill in the art at the time of the invention to remove or disable the portion of the mapping tool, taught in Ng (col. 7, lines 56-58 'the mapping tool generates new source code'), which generated the source code if it were desirable for a developer to perform these steps instead.

Regarding Claim 25: This claim is objected to as failing to further limit the parent claim (see objection above), as a result this claim can, and is, rejected with the same art rejection stated above for claim 23.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,974,254 to Hsu discloses a method for detecting differences between two programs. US 6,408,431 to Heughebaert et al. discloses a method of generating code for a software program in multiple languages. Additionally,

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'UML 2001: a standardization odyssey' Communications of the ACM v42.10. 1999 pg. 29-38; and the W3C specification 'Web Services Description Language (WSDL) 1.1'

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Mitchell whose telephone number is (571) 272-3728. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason Mitchell
11/29/04


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